

2/23

FIRST EMBODIMENT

FIG.2

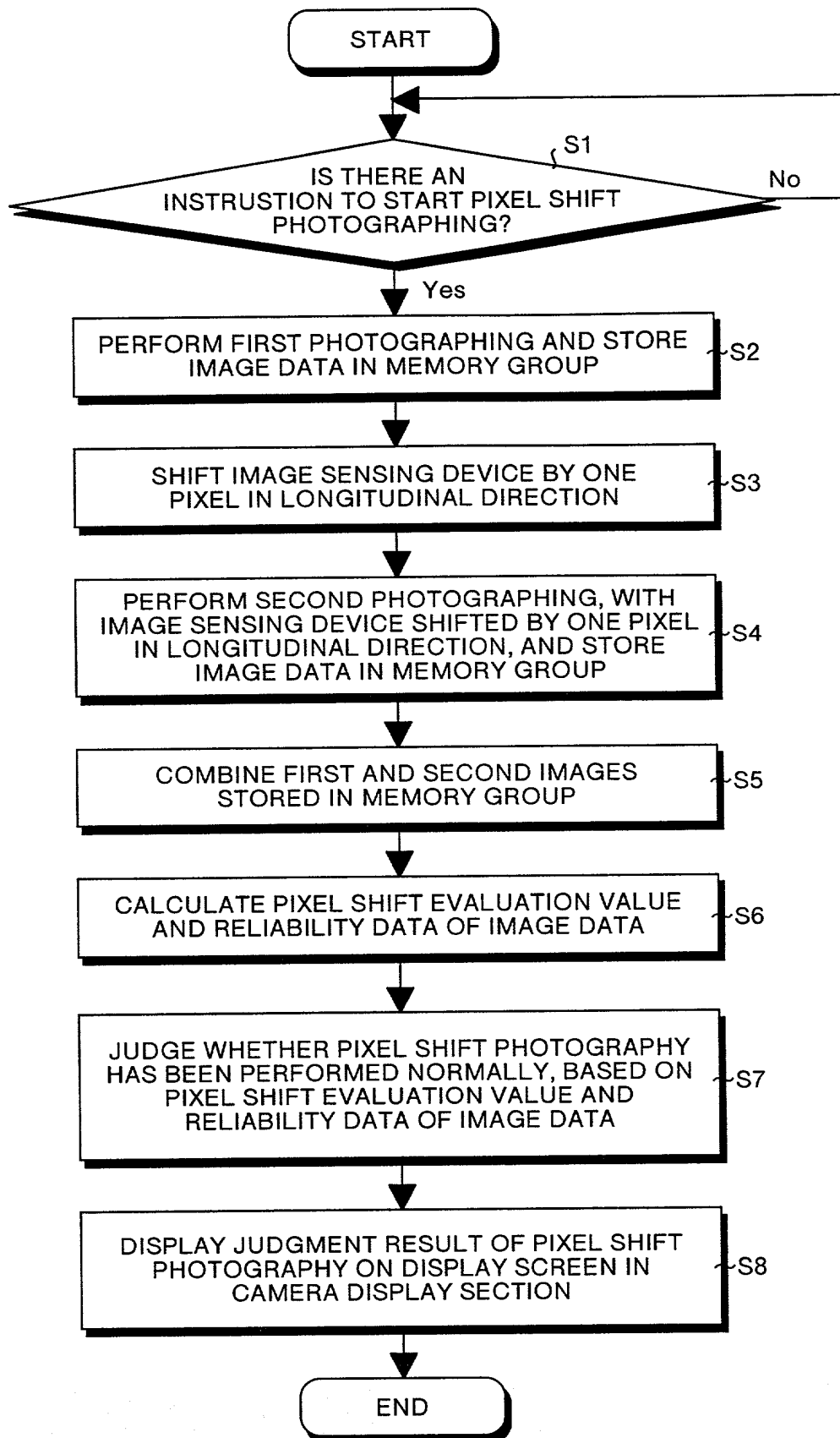


FIG.3

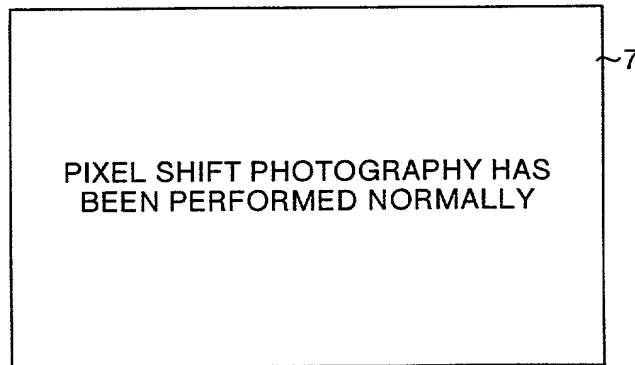


FIG.4

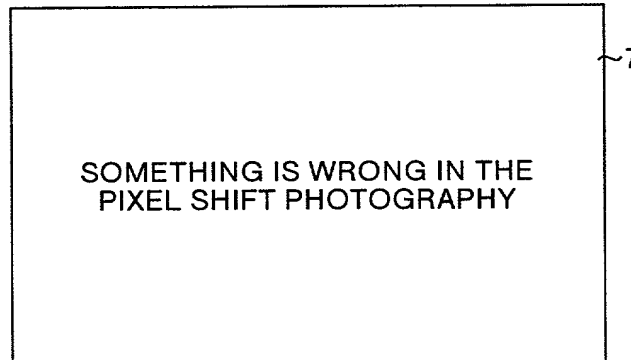


FIG.5A

PHOTOGRAPHED IMAGE 1
(NO SHIFT)

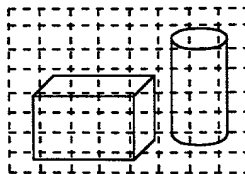


FIG.5B

PHOTOGRAPHED IMAGE 2
(AFTER SHIFT)

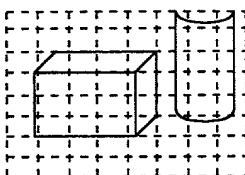


FIG.5C

TARGET IMAGE
(SHIFT PHOTOGRAPHED
IMAGE 1 TO $\uparrow 1 \rightarrow 0$)

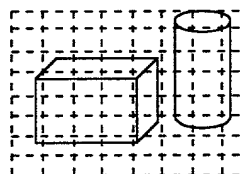


FIG.6A

PHOTOGRAPHED
IMAGE 1

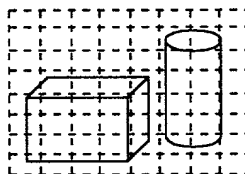


FIG.6B

PHOTOGRAPHED
IMAGE 2

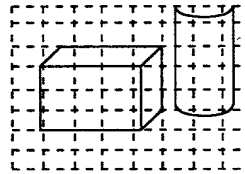
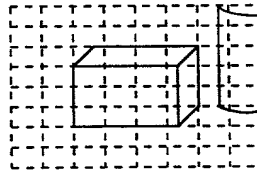


FIG.7A

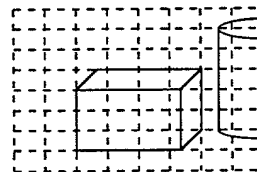
SHIFT PHOTOGRAPHED IMAGE
2 TO $\uparrow 0 \rightarrow 1$, CORRELATION



COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.45

FIG.7B

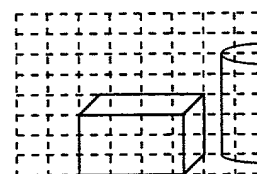
SHIFT PHOTOGRAPHED IMAGE
2 TO $\downarrow 1 \rightarrow 1$, CORRELATION



COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.7

FIG.7C

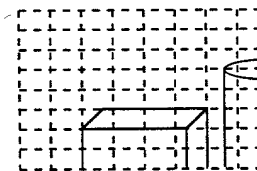
SHIFT PHOTOGRAPHED IMAGE
2 TO $\downarrow 2 \rightarrow 1$, CORRELATION



COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.65

FIG.7D

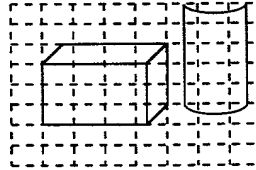
SHIFT PHOTOGRAPHED IMAGE
2 TO $\downarrow 3 \rightarrow 1$, CORRELATION



COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.4

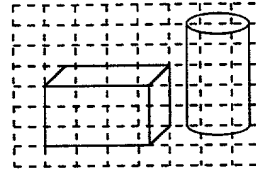
6/23

FIG.8A SHIFT PHOTOGRAPHED IMAGE
2 TO $\uparrow 0 \rightarrow 0$, CORRELATION



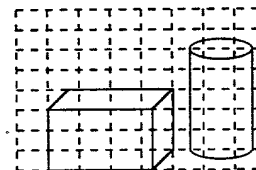
COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.7

FIG.8B SHIFT PHOTOGRAPHED IMAGE
2 TO $\downarrow 1 \rightarrow 0$, CORRELATION



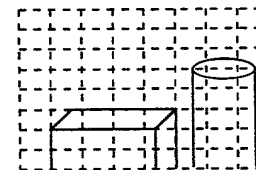
COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.95

FIG.8C SHIFT PHOTOGRAPHED IMAGE
2 TO $\downarrow 2 \rightarrow 0$, CORRELATION



COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.9

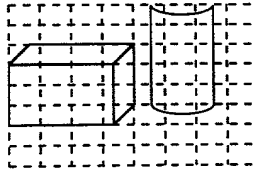
FIG.8D SHIFT PHOTOGRAPHED IMAGE
2 TO $\downarrow 3 \rightarrow 0$, CORRELATION



COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.65

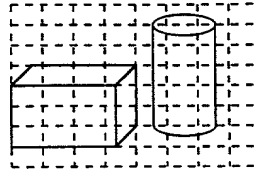
7/23

FIG.9A SHIFT PHOTOGRAPHED IMAGE
2 TO $\uparrow 0 \leftarrow 1$, CORRELATION



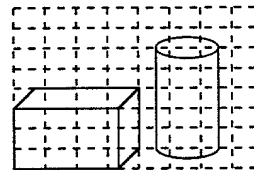
COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.6

FIG.9B SHIFT PHOTOGRAPHED IMAGE
2 TO $\uparrow 1 \leftarrow 1$, CORRELATION



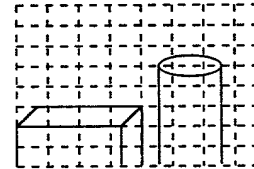
COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.85

FIG.9C SHIFT PHOTOGRAPHED IMAGE
2 TO $\downarrow 2 \leftarrow 1$, CORRELATION



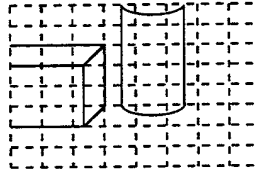
COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.8

FIG.9D SHIFT PHOTOGRAPHED IMAGE
2 TO $\downarrow 3 \leftarrow 1$, CORRELATION



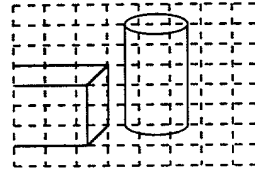
COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.55

FIG.10A SHIFT PHOTOGRAPHED IMAGE
2 TO $\uparrow 0 \leftarrow 2$, CORRELATION



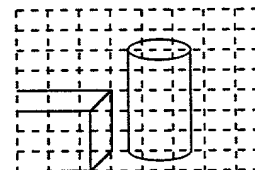
COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.3

FIG.10B SHIFT PHOTOGRAPHED IMAGE
2 TO $\uparrow 1 \leftarrow 2$, CORRELATION



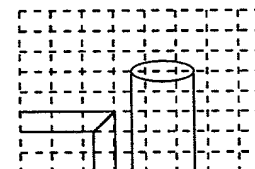
COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.6

FIG.10C SHIFT PHOTOGRAPHED IMAGE
2 TO $\uparrow 2 \leftarrow 2$, CORRELATION



COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.55

FIG.10D SHIFT PHOTOGRAPHED IMAGE
2 TO $\uparrow 3 \leftarrow 2$, CORRELATION



COEFFICIENT (WITH RESPECT TO IMAGE 1) 0.25

9/23

FIG.11

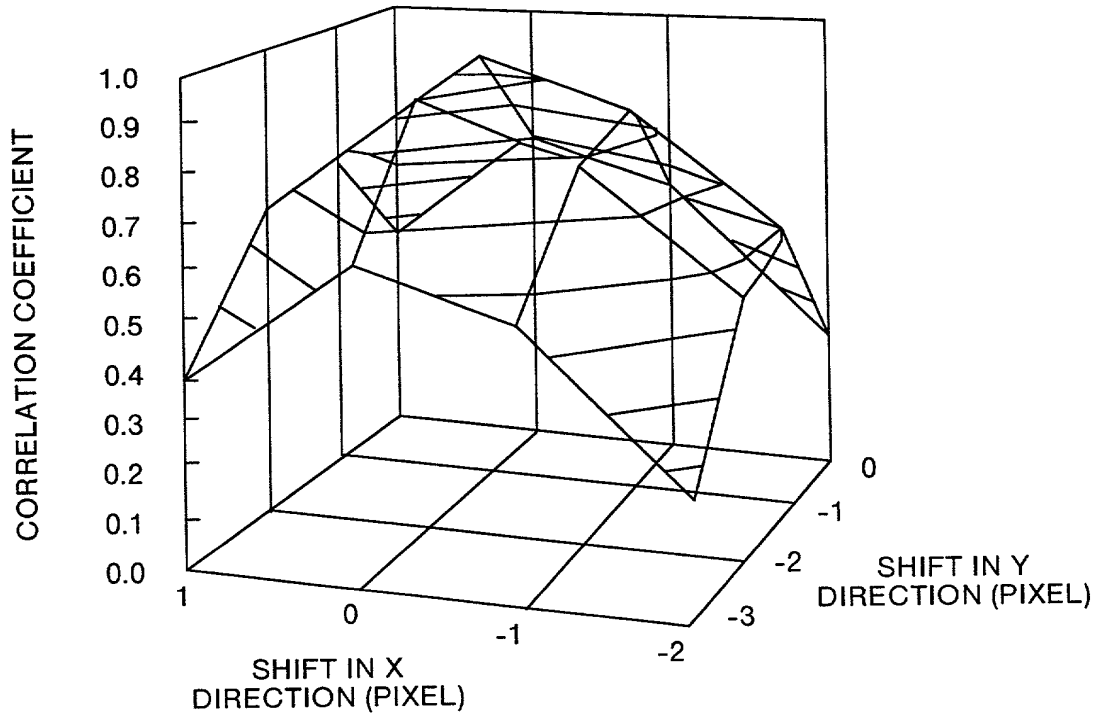
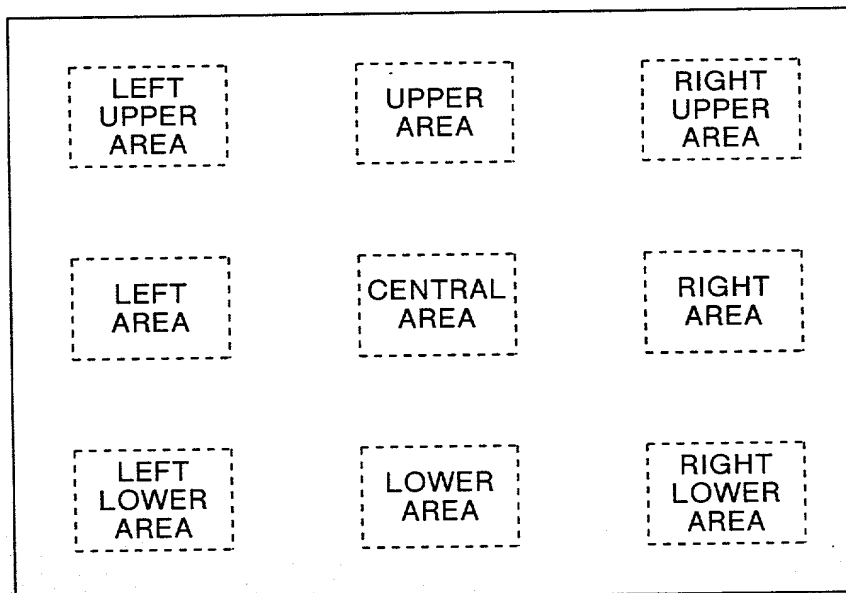


FIG.12

AMOUNT OF SHIFT IN EACH POSITION (EXAMPLE)



10/23

FIG.13A

PIXEL SHIFT (NORMAL STATE)

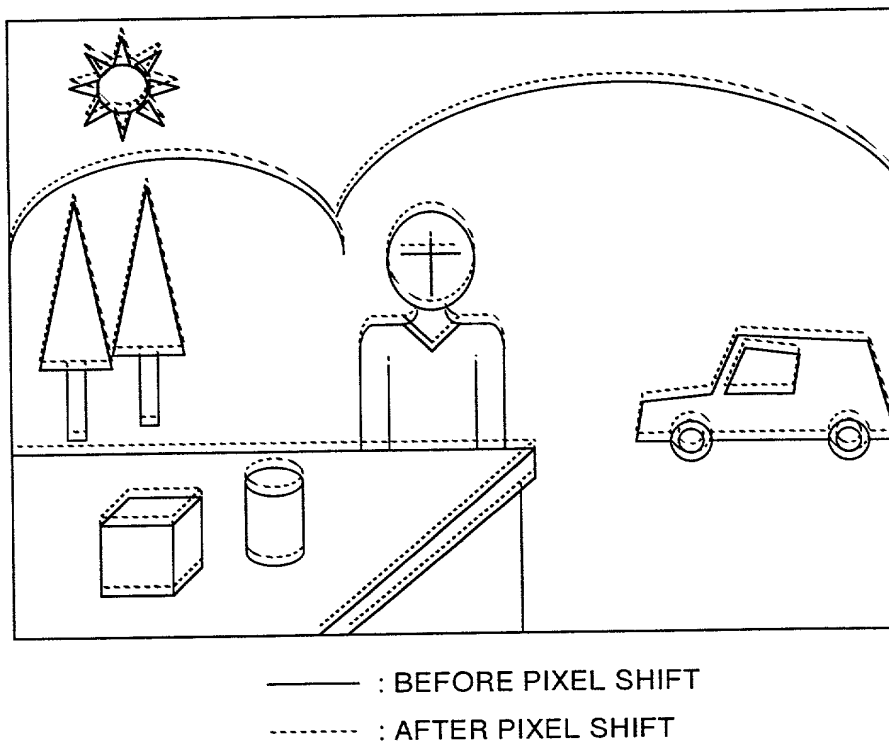


FIG.13B

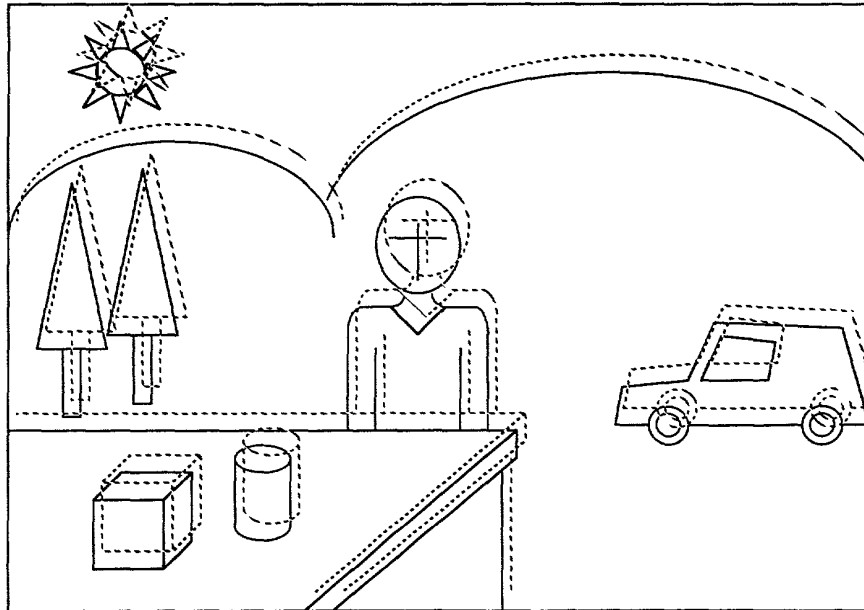
AMOUNT OF SHIFT IN EACH POSITION (EXAMPLE)

LEFT UPPER AREA	UPPER AREA	RIGHT UPPER AREA
<div>1.01 ↑ 0.01 →</div>	<div>1.03 ↑ 0.03 →</div>	<div>1.01 ↑ 0.02 →</div>
LEFT AREA	CENTRAL AREA	RIGHT AREA
<div>1.18 ↑ 0.01 →</div>	<div>1.02 ↑ 0.00 →</div>	<div>1.01 ↑ 0.02 →</div>
LEFT LOWER AREA	LOWER AREA	RIGHT LOWER AREA
<div>1.00 ↑ 0.01 →</div>	<div>1.01 ↑ 0.01 →</div>	<div>1.06 ↑ 0.05 →</div>

11/23

FIG.14A

PIXEL SHIFT (WHEN THERE IS A HAND MOVEMENT
OR WHEN THERE IS A FAILURE IN THE MECHANISM)



—— : BEFORE PIXEL SHIFT
- - - - : AFTER PIXEL SHIFT

FIG.14B

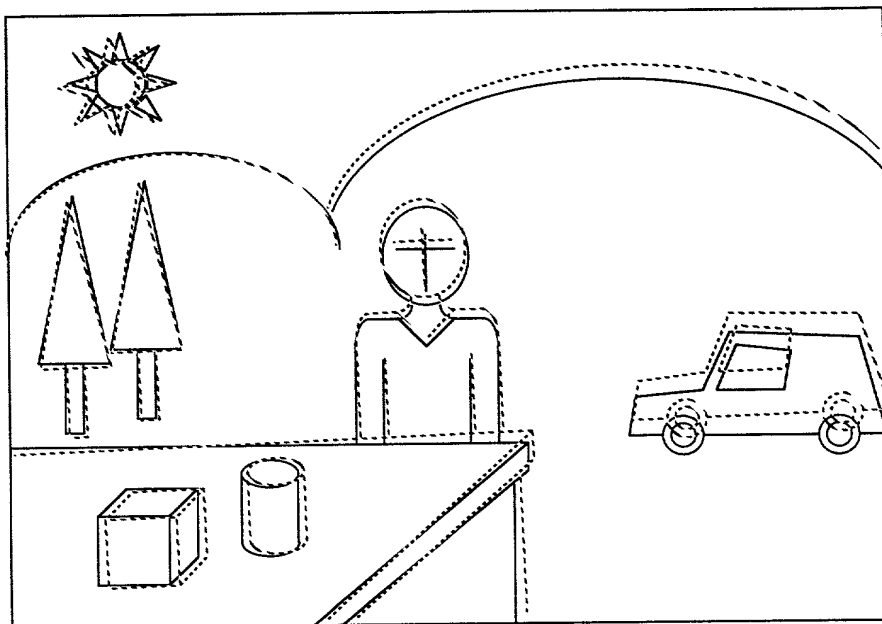
AMOUNT OF SHIFT IN EACH POSITION (EXAMPLE)

LEFT UPPER AREA	UPPER AREA	RIGHT UPPER AREA
<div> <div>1.19</div> <div>0.62</div> </div>	<div> <div>1.25</div> <div>0.58</div> </div>	<div> <div>1.23</div> <div>0.50</div> </div>
LEFT AREA	CENTRAL AREA	RIGHT AREA
<div> <div>1.18</div> <div>0.63</div> </div>	<div> <div>1.20</div> <div>0.59</div> </div>	<div> <div>1.23</div> <div>0.59</div> </div>
LEFT LOWER AREA	LOWER AREA	RIGHT LOWER AREA
<div> <div>1.19</div> <div>0.59</div> </div>	<div> <div>1.19</div> <div>0.54</div> </div>	<div> <div>1.20</div> <div>0.62</div> </div>

12/23

FIG.15A

PIXEL SHIFT (WHEN THERE IS A HAND MOVEMENT
 OR WHEN THERE IS A FAILURE IN THE MECHANISM)



— : BEFORE PIXEL SHIFT
 - - - : AFTER PIXEL SHIFT

FIG.15B

AMOUNT OF SHIFT IN EACH POSITION (EXAMPLE)

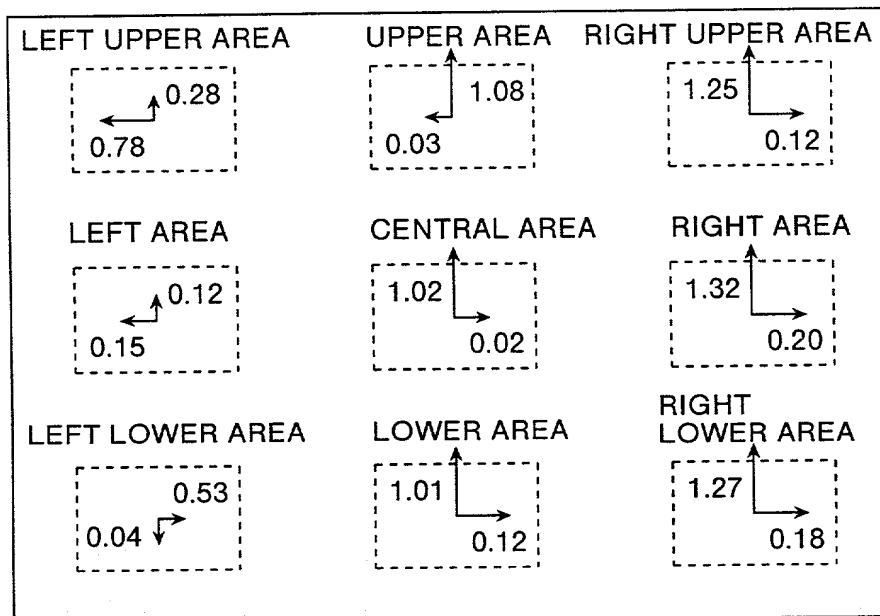


FIG.16A

PIXEL SHIFT (MOVING OBJECT EXIST)

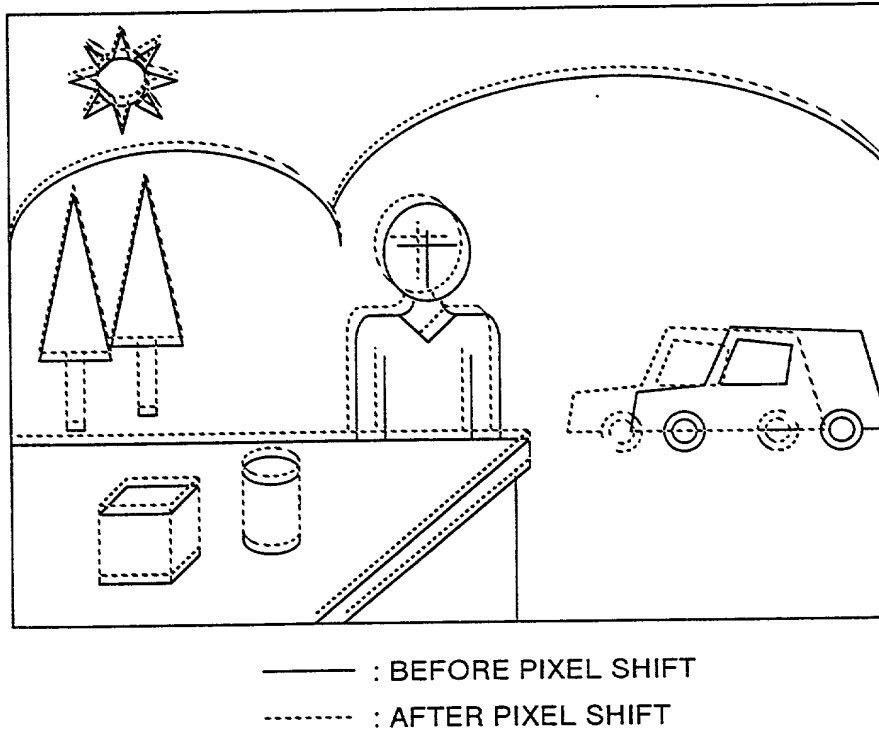
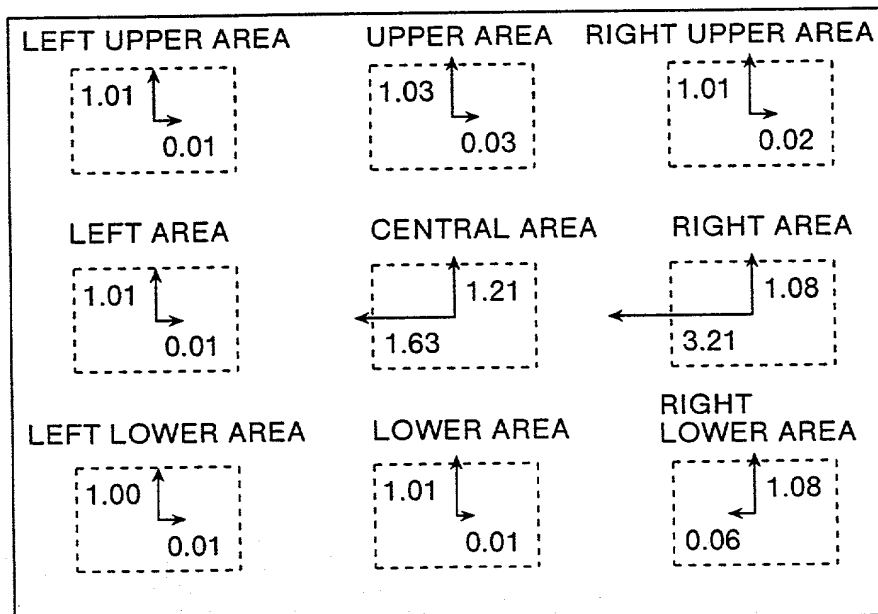


FIG.16B

AMOUNT OF SHIFT IN EACH POSITION (EXAMPLE)



14/23

FIG.17

SECOND EMBODIMENT

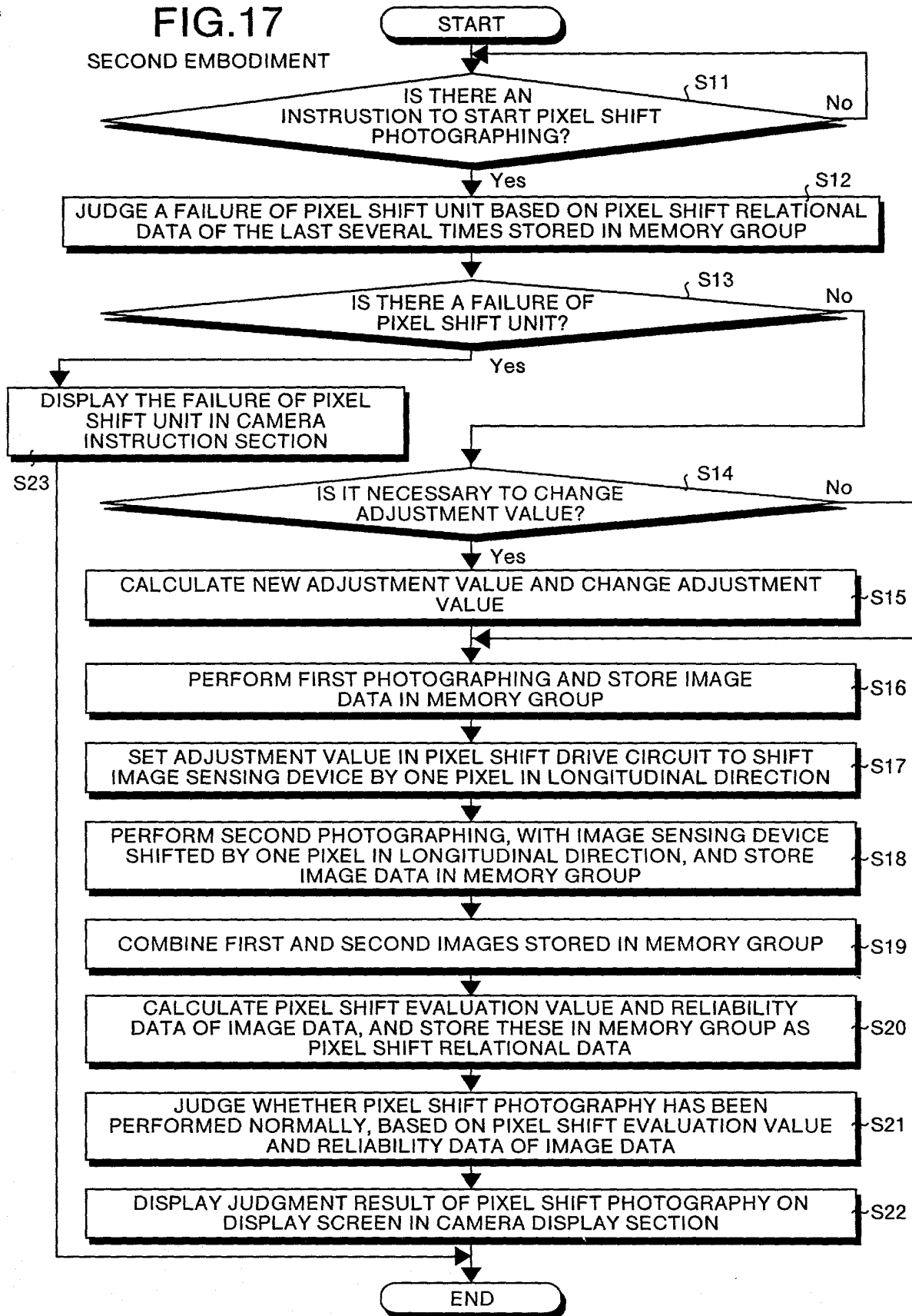


FIG.18

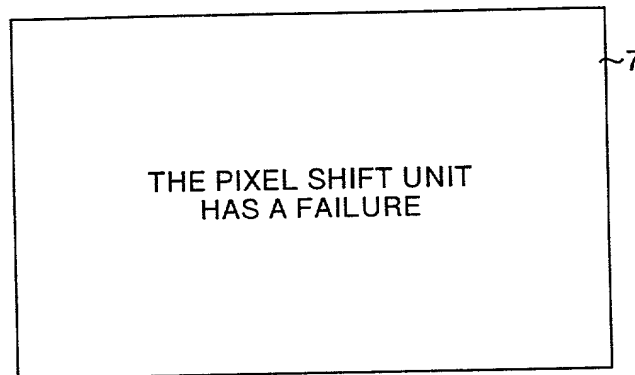


FIG.19

THIRD EMBODIMENT

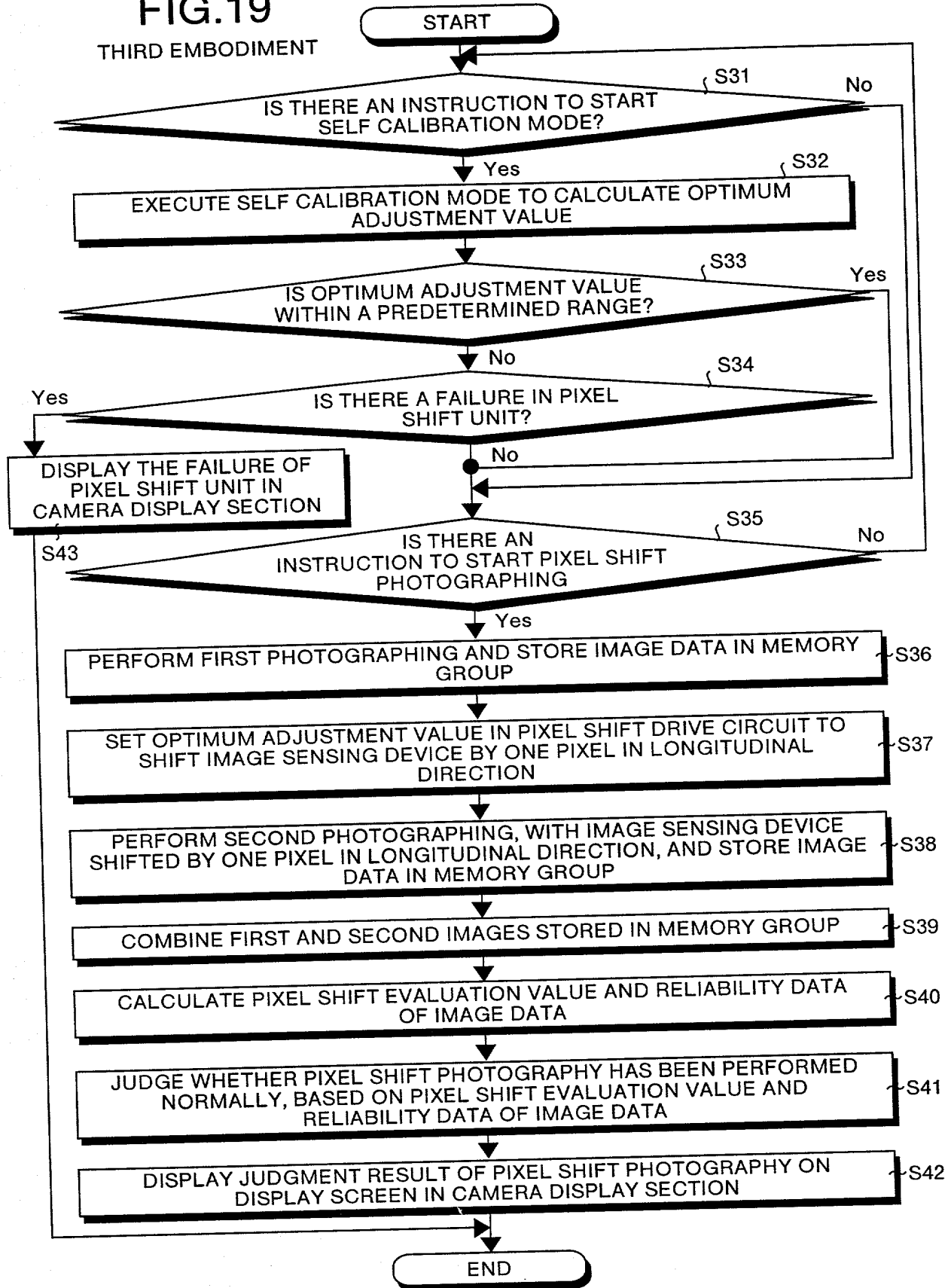


FIG.20A

PHOTOGRAPHED IMAGE 1
(NO SHIFT)

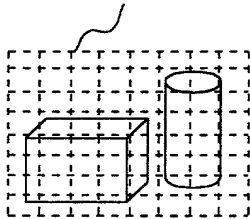


FIG.20B

TARGET IMAGE
(IMAGE 1 ↓ 1 → 0)

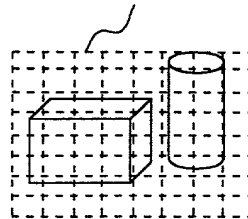
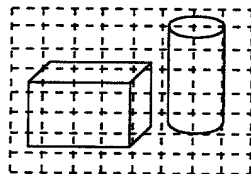


FIG.21A

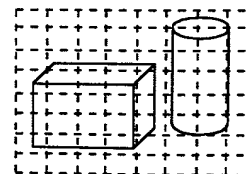
PHOTOGRAPHED IMAGE 2,
(ADJUSTMENT VALUE = 80)



COINCIDENCE DEGREE WITH
RESPECT TO TARGET IMAGE = 0.75

FIG.21B

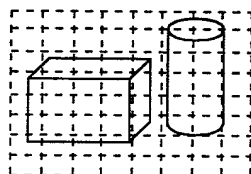
PHOTOGRAPHED IMAGE 3,
(ADJUSTMENT VALUE = 90)



COINCIDENCE DEGREE WITH
RESPECT TO TARGET IMAGE = 0.85

FIG.21C

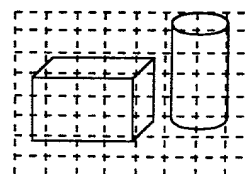
PHOTOGRAPHED IMAGE 4,
(ADJUSTMENT VALUE = 100)



COINCIDENCE DEGREE WITH
RESPECT TO TARGET IMAGE = 0.95

FIG.21D

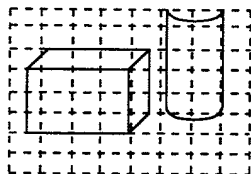
PHOTOGRAPHED IMAGE 5,
(ADJUSTMENT VALUE = 110)



COINCIDENCE DEGREE WITH
RESPECT TO TARGET IMAGE = 0.93

FIG.21E

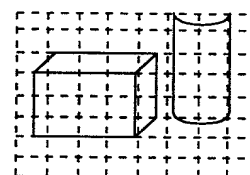
PHOTOGRAPHED IMAGE 6,
(ADJUSTMENT VALUE = 120)



COINCIDENCE DEGREE WITH
RESPECT TO TARGET IMAGE = 0.83

FIG.21F

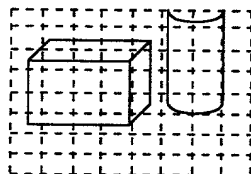
PHOTOGRAPHED IMAGE 7,
(ADJUSTMENT VALUE = 130)



COINCIDENCE DEGREE WITH
RESPECT TO TARGET IMAGE = 0.73

FIG.21G

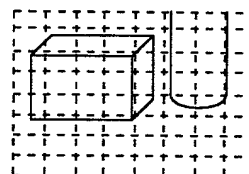
PHOTOGRAPHED IMAGE 8,
(ADJUSTMENT VALUE = 140)



COINCIDENCE DEGREE WITH
RESPECT TO TARGET IMAGE = 0.63

FIG.21H

PHOTOGRAPHED IMAGE 9,
(ADJUSTMENT VALUE = 150)



COINCIDENCE DEGREE WITH
RESPECT TO TARGET IMAGE = 0.53

19/23

FIG.22

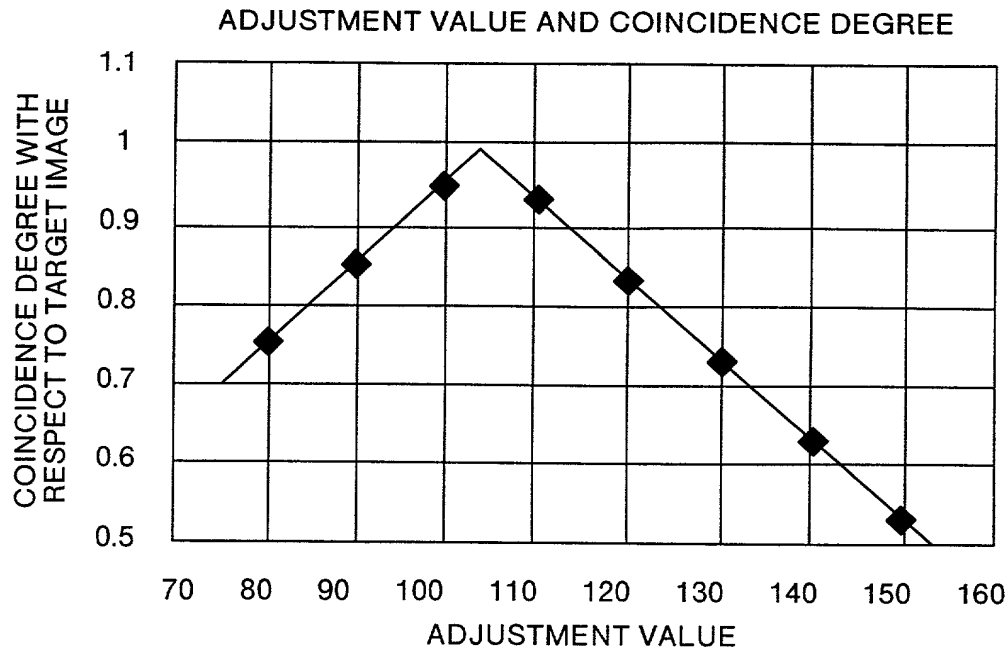
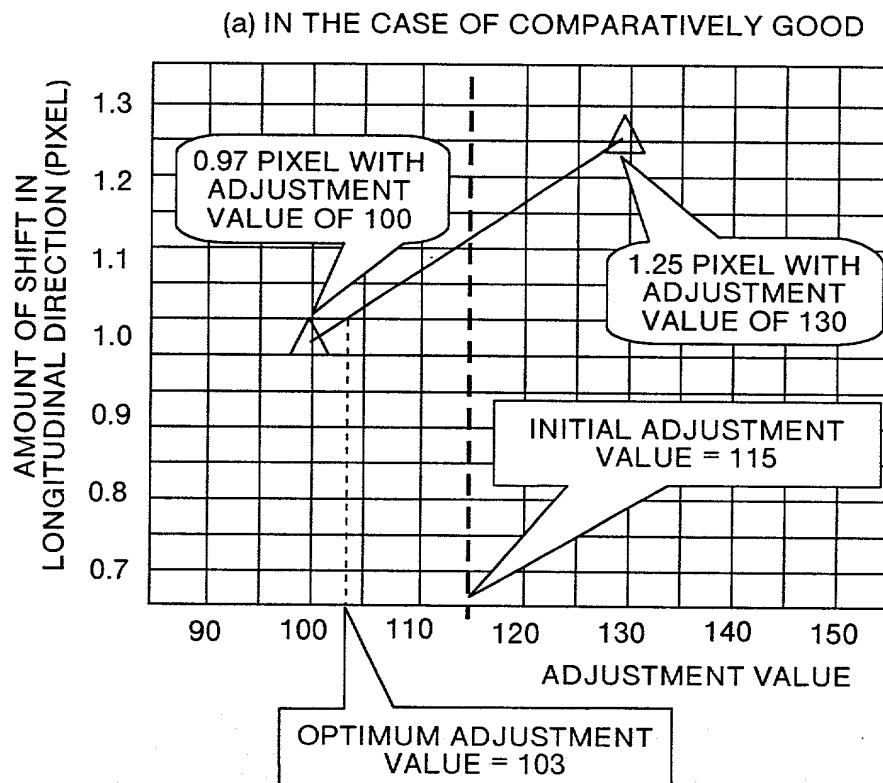


FIG.23



20/23

FIG.24

(b) IN THE CASE OF ADJUSTMENT VALUE IS DEVIATED LARGELY

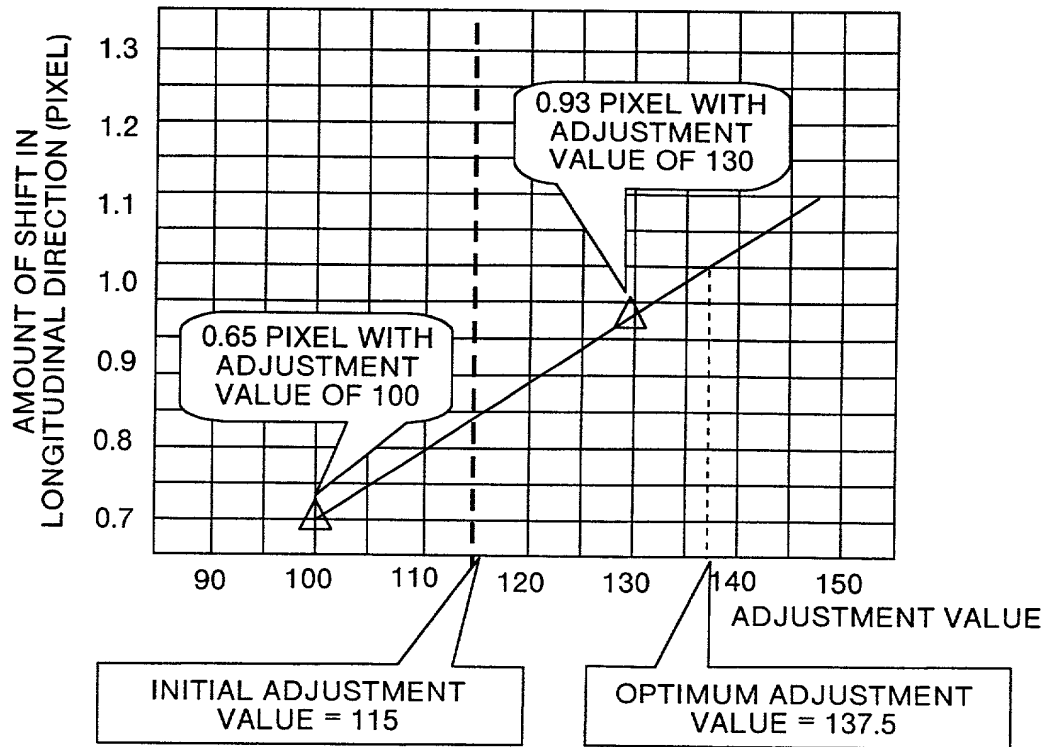
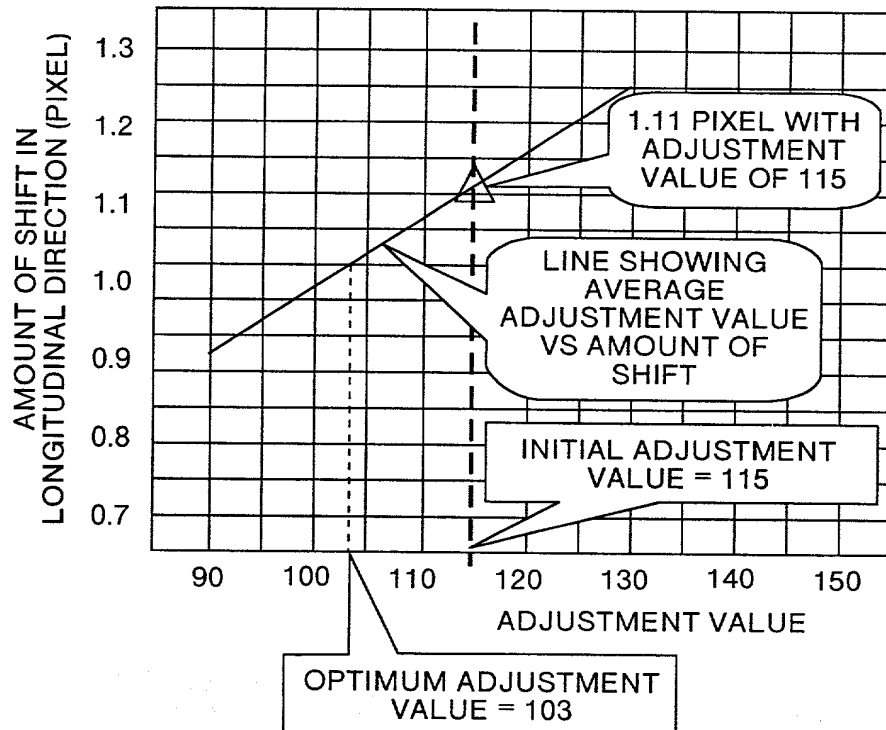


FIG.25

(2) IN THE CASE OF ADJUSTMENT VALUE AT ONE POINT



21/23

FIG.26 FOURTH EMBODIMENT

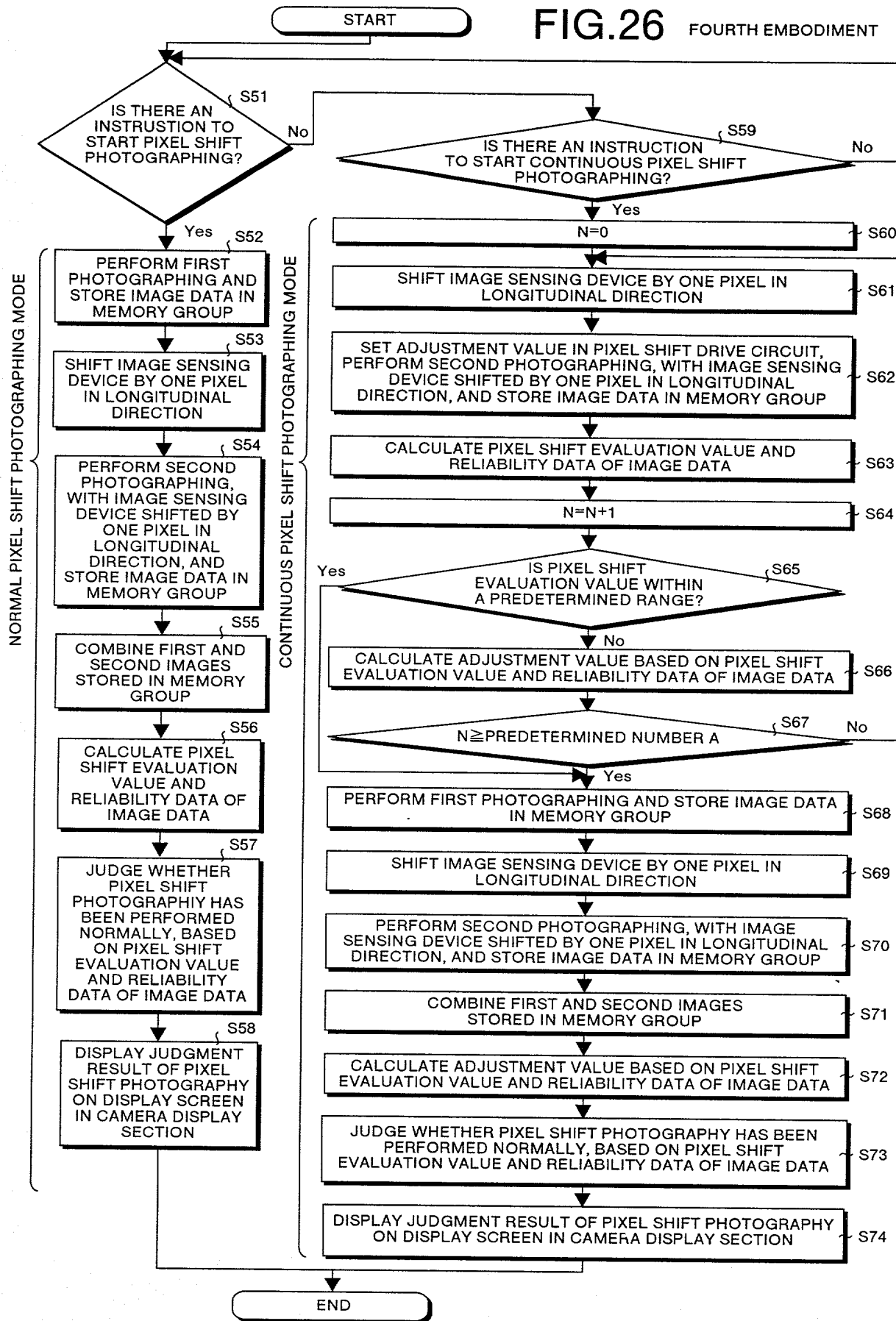


FIG.27A

CCD SHIFT METHOD

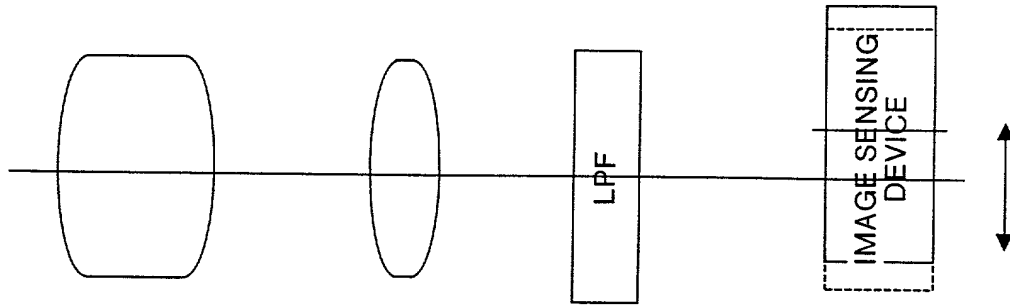


FIG.27B

LPF GRADIENT METHOD

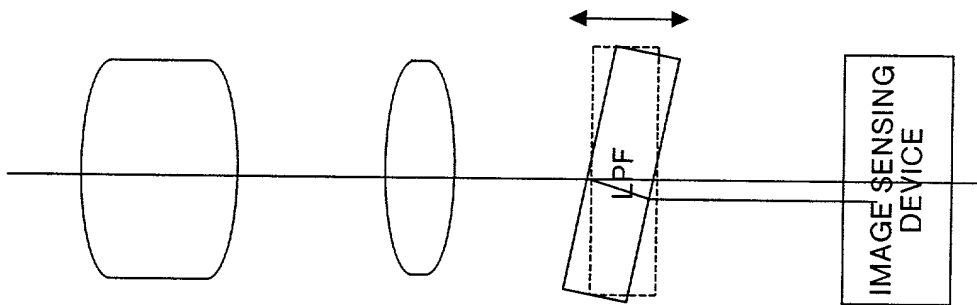


FIG.27C

LENS SHIFT METHOD

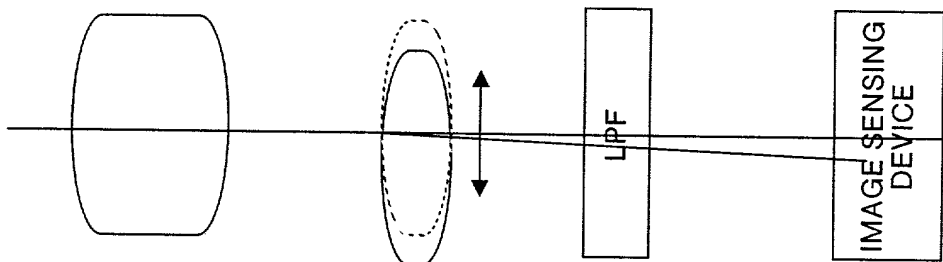


FIG.28A
NORMAL
PHOTOGRAPHING

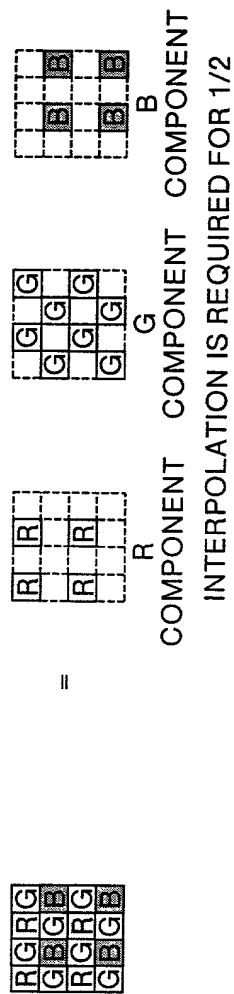


FIG.28B
PIXEL SHIFT
PHOTOGRAPHING
(IDEAL STATE)

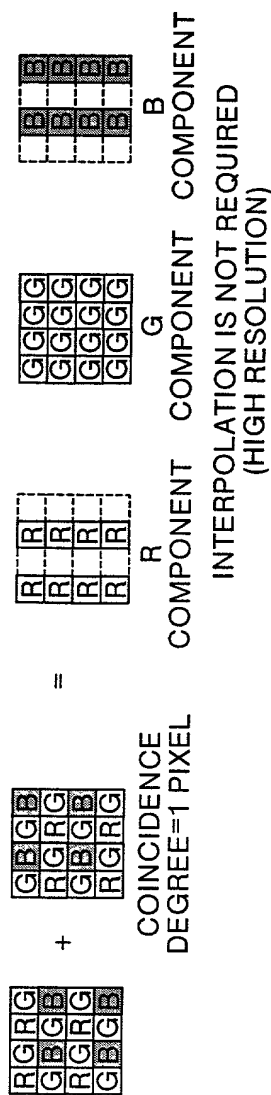


FIG.28C
PIXEL SHIFT
PHOTOGRAPHING
(AT THE TIME OF
INSUFFICIENT
ACCURACY)

